

electrical modulation signal, and

a modulator modulating the emitted light with the adjusted electrical modulation signal, the optical transmitter transmitting the modulated light to an optical transmission path; and

a receiver receiving the transmitted, modulated light through the optical transmission path, wherein the adjusting circuit adjusts at least one of the rise time and fall time in accordance with characteristics of the modulated light at the receiver.

5. (ONCE AMENDED) An apparatus as in claim 1, wherein the adjusting circuit adjusts both the rise time and the fall time.

6. (ONCE AMENDED) An apparatus as in claim 1, wherein the adjusting circuit lengthens both the rise time and the fall time.

7. (ONCE AMENDED) An apparatus as in claim 1, wherein the adjusting circuit shortens both the rise time and the fall time.

8. (ONCE AMENDED) An apparatus as in claim 1, wherein the adjusting circuit adjusts both the rise time and the fall time to maintain amplitude deterioration and phase margin of the transmitted modulated light within a specific range.

11. (TWICE AMENDED) An apparatus as in claim 1, wherein the adjusting circuit performs one of

lengthening both the rise time and the fall time in accordance with the characteristics of the transmitted modulated light at the receiver,

shortening both the rise time and the fall time in accordance with the characteristics of the transmitted modulated light at the receiver, and

adjusting both the rise time and the fall time to maintain amplitude deterioration and phase margin of the transmitted modulated light within a specific range in accordance with the characteristics of the transmitted modulated light at the receiver.

12. (TWICE AMENDED) An apparatus as in claim 1, further comprising:
a controller controlling the adjusting circuit to adjust said at least one of the rise time and

fall time in accordance with the characteristics of the transmitted modulated light at the receiver.

13. (ONCE AMENDED) An apparatus as in claim 1, wherein the modulator modulates the emitted light via one of the group consisting of optical phase modulation and optical frequency modulation.

14. (ONCE AMENDED) An apparatus as in claim 1, further comprising:
a dispersion compensator compensating for wavelength dispersion characteristics of the optical transmission path.

15. (ONCE AMENDED) An apparatus as in claim 1, further comprising:
a plurality of said optical transmitters, each transmitting a respective modulated light having a different wavelength than the modulated lights of the other optical transmitters; and
an optical multiplexer multiplexing the modulated lights together into a wavelength division multiplexed (WDM) signal which is transmitted through the optical transmission path.

16. (TWICE AMENDED) An apparatus comprising:
an adjusting circuit adjusting at least one of a rise time and a fall time of an electrical modulation signal; and
a modulator modulating a light with the adjusted electrical modulation signal, wherein the adjusting circuit adjusts said at least one of the rise time and the fall time in accordance with characteristics of the modulated light as received by a receiver through an optical transmission path.

17. (NOT AMENDED) An apparatus as in claim 16, wherein the adjusting circuit adjusts both the rise time and the fall time.

18. (NOT AMENDED) An apparatus as in claim 16, wherein the adjusting circuit lengthens both the rise time and the fall time.

19. (NOT AMENDED) An apparatus as in claim 16, wherein the adjusting circuit shortens both the rise time and the fall time.

C6 20. (ONCE AMENDED) An apparatus as in claim 16, wherein the adjusting circuit
adjusts both the rise time and the fall time to maintain amplitude deterioration and phase margin
of the modulated light within a specific range.

C7 22. (TWICE AMENDED) An apparatus as in claim 16, further comprising:
a controller controlling the adjusting circuit to adjust said at least one of the rise time and
fall time in accordance with the characteristics of the modulated light at the receiver.

23. (NOT AMENDED) An apparatus as in claim 16, wherein the modulator modulates
the light via one of the group consisting of optical phase modulation and optical frequency
modulation.

C8 24. (TWICE AMENDED) An apparatus as in claim 16, further comprising:
a dispersion compensator compensating for wavelength dispersion characteristics of the
optical transmission path.

25. (NOT AMENDED) An apparatus as in claim 16, wherein the adjusting circuit
comprises:
a electrical amplifier amplifying the electrical modulation signal; and
a filter filtering the amplified electrical modulation signal.

C9 26. (ONCE AMENDED) An optical communication system comprising:
a transmitter including an adjusting circuit adjusting at least one of a rise time and a fall
time of an electrical modulation signal, and a modulator modulating a light with the adjusted
electrical modulation signal, the transmitter transmitting the modulated light through an optical
transmission path;
a receiver receiving the transmitted, modulated light through the optical transmission
path; and
a controller controlling the adjusting circuit to adjust said at least one of the rise time and
fall time in accordance with characteristics of the modulated light at the receiver.

27. (ONCE AMENDED) An optical communication system as in claim 26, wherein the
controller controls the adjusting circuit to perform one of:

lengthening both the rise time and the fall time in accordance with characteristics of the modulated light at the receiver,

shortening both the rise time and the fall time in accordance with characteristics of the modulated light at the receiver, and

adjusting both the rise time and the fall time to maintain amplitude deterioration and phase margin of the modulated light within a specific range in accordance with characteristics of the modulated light at the receiver.

28. (TWICE AMENDED) An apparatus comprising:

an adjusting circuit adjusting at least one of a rise time and a fall time of a modulation signal; and

C 10 a modulator modulating a light with the adjusted modulation signal, wherein the adjusting circuit adjusts at least one of the rise time and the fall time in accordance with characteristics of the modulated light as received by a receiver through an optical transmission path.

29. (ONCE AMENDED) An apparatus as in claim 28, wherein the adjusting circuit performs one of :

adjusting both the rise time and the fall time,

lengthening both the rise time and the fall time, and

shortening both the rise time and the fall time.

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31. (ONCE AMENDED) An apparatus as in claim 28, further comprising:

C 12 a controller controlling the adjusting circuit to adjust said at least one of the rise time and fall time in accordance with the characteristics of the modulated light at the receiver.

32. (NOT AMENDED) An apparatus as in claim 28, wherein the adjusting circuit comprises:

an amplifier amplifying the modulation signal; and

a filter filtering the amplified modulation signal.

33. (TWICE AMENDED) A method comprising:

C 13 adjusting at least one of a rise time and a fall time of an electrical modulation signal;